

REMARKS

Claims 1-14 and 21-27 are pending. By this Amendment, claims 15-20 are canceled, claims 1, 8, 21 and 25 are amended. The specification has been clarified as described below. No new matter is introduced by the present Amendment.

Objections to the Specification

In the Office Action, the Examiner objected to the abstract because it is not limited to a single paragraph. Applicants note that the MPEP states that, "the abstract should be narrative in form and generally limited to a single paragraph within the range of 50 to 150 words." See MPEP § 608.01(b) (emphasis added). The MPEP does not require the abstract to be limited to a single paragraph. However, Applicants have condensed the abstract to a single paragraph in order to advance prosecution. The Examiner also objected to the un-capitalized use of the Trademark CALGON. Applicants have amended the specification to capitalize the trademark CALGON.

The Examiner also objected to the specification as failing to provide proper antecedent basis for the claimed subject matter. More specifically, the Examiner asserted that, "the term 'belt' lacks antecedent basis in the specification. Applicants' specification states that, "the results on these samples are indicative of results that would be obtained with other support structures, such as belts, drums and the like, for supporting the organophotoreceptors." See specification at page 29, lines 15-17. As such, Applicants submit that there is proper antecedent basis in the specification for the term belt. The Examiner also asserted that there is not proper antecedent basis for ester groups where R "is an alkyl group, an alkenyl group, or an aromatic group." Applicants have amended the specification to provide proper antecedent basis for the claimed ester groups.

The Examiner objected to various portions of the specification, asserting that, "it is not clear how a methylene group, which is divalent, can be replaced with groups that are not divalent," and "it is not clear what is meant by the term part of a ring group." These issues are discussed below in the rejections under 35 U.S.C. § 112.

Restriction Requirement Under 35 U.S.C. § 121

The Examiner imposed a restriction requirement under 35 U.S.C. § 121, and indicated that restriction to one of the following inventions was required: Group I (claims 1-14 and 21-27); or Group II (claims 15-20). Applicants confirm without traverse the provisional election made during a telephone conference on March 7, 2005, to prosecute the invention of Group I, claims 1-14 and 21-27. Claims 15-20 have been cancelled without prejudice.

Claiming Benefit Of Earlier Filed Provisional Application Under 119(e)

The Examiner asserted that the provisional application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for claims 1-14 and 21-27 of this application. However, it is well established that priority claims under sections 119 and 120 are evaluated on a claim by claim basis. The evaluation of the particular priority date of a claim need only be considered under circumstances in which there is an intervening reference with a critical date between the actual filing date and the date of a priority claim. This issue is moot until such a reference becomes of record. See, for example, the discussion in the context of a foreign priority claim under section 119 in MPEP 201.15. Therefore, Applicants do not presently consider this issue further.

Rejections Under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 1-14 and 21-27 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, the Examiner rejected claims 1, 8, 21 and 25, asserting that those claims are indefinite because “it is not clear what is meant by the term ‘part of a ring group.’” “The test for definiteness under 35 U.S.C. 112, second paragraph, is whether ‘those skilled in the art would understand what is claimed when the claim is read in light of the specification.’” See MPEP § 2173.02 (quoting *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 1 USPQ2d 1081, 1088 (Fed.Cir 1986)). Applicants submit that one of ordinary skill in the art would understand that term “part of a ring group” refers to an atom or group that is bonded to other atoms or groups in a ring system. For example, a carbon atom in a benzyl group is a part of a ring group. Thus, claims 1, 8, 21 and 25 are clearly indicating that R_a, R_b, R_c, R_d, R_e and R_f can be atoms or groups that are bonded to other atoms in a ring system. Particularly, for example, this terminology allows for R_c and R_d, as well as R_e and R_f, to jointly form a ring group. Since one of ordinary skill in the art would understand what the term “part of a ring group” means, claims 1, 8, 21 and 25 are definite.

The Examiner also rejected claims 1, 8 and 21 asserting that those claims are indefinite because, “it is not clear how a methylene group, which is divalent, can be replaced with groups that are not divalent.” As discussed above, “the test for definiteness under 35 U.S.C. 112, second paragraph, is whether ‘those skilled in the art would understand what is claimed when the claim is read in light of the specification.’” See MPEP § 2173.02. Applicants submit that claims 1, 8 and 21 clearly indicate that one or more of the methylene groups in the solubilizing substituent can be replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, a CR_b group, a CR_cR_d group, or a SiR_cR_f. One of ordinary skill in the art would recognize that the

substituted groups would be inserted in the methylene chain in such a way as to provide the appropriate number of bonds to each group. Thus, as long as the group is at least double valent, the remaining portions of the group can be appropriately substituted based on the liberal substitution defined in the specification. For example, Applicants specification states that, "in some embodiments, two adjacent methylene groups are replaced by an O atom and a C=O group to form an ester group. In other embodiments, two adjacent methylene groups are replaced by an NR₁ group and a C=O group to form an amide group. In further embodiments, two adjacent methylene groups are replaced by two CR₂ group to form an alkenyl solubilizing substituent." Since one of ordinary skill in the art would understand the scope of claims 1, 8, and 21, claims 1, 8 and 21 are definite.

The Examiner also rejected claim 25 asserting that claim 25 is indefinite "because it is not clear how a methylene group, which is divalent, can be replaced with groups that are not divalent." As discussed above, Applicants submit that one of ordinary skill in the art would understand the scope of claim 25, and thus claim 25 is definite.

Since claims 1-14 and 21-27 are definite, Applicants respectfully request the withdrawal of the rejection under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 1, 2, 21, 22, 25 and 27 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 4,415,640 to Goto et al. (the '640 Patent). More specifically, the Examiner asserted that the '640 Patent "teaches that the charge transport material of formula (I) can be represented by compound (11) at col. 5. Compound (11) meets the compositional limitations of the formula recited in instant claims 1, 2, 21, 22, 25 and 27. Compound (11) is

represented by the formula recited in the instant claims when: (1) the group Y is 9-fluorenylidene where one of the benzene rings of the 9-fluorenylidene is substituted with the group $-N-(CH_3)_2$; (2) the group R is hydrogen; and the group X is the p-(N,N-disubstituted) arylamine group N,N-diethylamine-4-naphthylene. The group $N-(CH_3)_2$ meets the group $-(CH_2)_nH$ when n is 2, and the methylene is replaced with the group NR_a where R_a is methyl." To advance prosecution, Applicants have amended claims 1 and 21 to more particularly point out Applicants' claimed invention. Applicants' respectfully request reconsideration of the rejection in view of the following comments.

"A claim is anticipated only if each and every element as set forth in the claim is found either expressly or inherently described in a single prior art reference." See MPEP § 2131. As discussed above, the '640 Patent discloses a 9-fluorenylidene where one of the benzene rings of the 9-fluorenylidene is substituted with the group $-N-(CH_3)_2$. In contrast, Applicants' invention, as claimed in independent claims 1 and 21, relates to a charge transport material comprising a 9-fluorenylidene group having at least a solubilizing substituent, wherein the solubilizing substituent comprises a $-(CH_2)_nH$ group where n is an integer between 1 and 50, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, a CR_b group, a CR_cR_d group, or a SiR_eR_f where R_a , R_b , R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group. Since the '640 Patent does not teach a solubilizing substituent as presently claimed, the '640 Patent does not prima facie anticipate Applicants' claimed invention.

Since the '640 Patent does not prima facie anticipate Applicants' invention, as claimed in independent claims 1 and 21, Applicants respectfully request the withdrawal of the rejection of claims 1, 2, 21, 22, 25 and 27 under 35 U.S.C. § 102(b) as being anticipated by the '640 Patent.

Rejections Under 35 U.S.C. § 103

1. Rejections Under Ohkubo In View of Goto

The Examiner rejected claims 7-9 and 14 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,430,526 to Ohkubo (the '526 Patent) in view of the '640 Patent. The Examiner also rejected claim 11 under 35 U.S.C. § 103(a) as being unpatentable over the '526 Patent in view of the '640 Patent. More specifically, the Examiner asserted that the '526 Patent discloses "an electrophotographic image forming apparatus comprising all the components recited in instant claims 8, 9 and 14, but for the particular photoreceptor." The Examiner also asserted that the '526 Patent "does not disclose the use of the photoreceptor recited in the instant claims." The '640 Patent was cited for disclosing a particular photoreceptor." Applicants' submit that the combination of the '640 Patent and the '526 Patent does not render Applicants' invention prima facie obvious. Applicants respectfully request reconsideration of the rejection in view of following comments.

In order to establish a prima facie case of obviousness, "the prior art reference (or references when combined) must teach or suggest all the claim limitations." See MPEP § 2143. As discussed above, the '640 Patent discloses a 9-fluorenylidene where one of the benzene rings of the 9-fluorenylidene is substituted with the group $-N-(CH_3)_2$. In contrast, Applicants' invention, as claimed in independent claims 1 and 8, relates to a charge transport material comprising a 9-fluorenylidene group having at least a solubilizing substituent, wherein the solubilizing substituent comprises a $-(CH_2)_nH$ group where n is an integer between 1 and 50, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, a CR_b group, a CR_cR_d group, or a SiR_eR_f where R_a , R_b , R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a

heterocyclic group, an aromatic group, or part of a ring group. Moreover, the '526 patent does not make up for the deficiencies of the '640 Patent. Since neither the '640 Patent nor the '526 Patent teach or suggest a 9-fluorenylidene group having a solubilizing substituent as presently claimed, the combination of the '640 Patent and the '526 Patent does not render Applicants' invention, as claimed in independent claims 1 and 8, prima facie obvious.

Since the combination of the '640 Patent and the '526 Patent does not render Applicants' claimed invention, as claimed in independent claims 1 and 8, prima facie obvious, Applicants respectfully request the withdrawal of the rejection of claims 7-9, 11 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the '526 Patent in view of the '640 Patent.

2. Rejections Over Goto

The Examiner rejected claims 4 and 24 under 35 U.S.C. § 103(a) as being unpatentable over the '640 Patent. Claim 4 depends from independent claim 1 and claim 24 depends from independent claim 21, and as such claims 4 and 24 incorporate all of the features of claims 1 and 21, respectively. As discussed above, the '640 Patent does not disclose Applicants' invention as claimed in independent claims 1 and 21. Moreover, the '640 Patent does not suggest a charge transport material having a solubilizing substituent as claimed in independent claims 1 and 21. Since the '640 Patent does not disclose or suggest all of the features of Applicants' invention, as claimed in independent claims 1 and 21, Applicants respectfully request the withdrawal of the rejection under 35 U.S.C. § 103(a) of claims 4 and 24.

3. Rejections Under Hamasaki In View of Goto

The Examiner rejected claims 1, 2, 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,528,645 to Hamasaki (the '645 Patent) in view of the '640 Patent. More specifically, the Examiner asserted that the '645 Patent discloses "a single-layered

organic photoreceptor comprising an electrically conductive substrate and a photosensitive layer comprising particular titanyl phthalocyanine crystals, an electron transferring compound, and a hole transferring compound.” The Examiner also asserted that the ‘645 Patent “does not exemplify a single-layered organic photoreceptor comprising the charge transport compound recited in the instant claims.” The ‘640 Patent is cited for teaching “a hydrazone, i.e., and azine, charge transport compound that meets the compositional limitations of the formula recited in instant claims 1 and 2.” Applicants submit that the combination of the ‘640 Patent and the ‘645 Patent does not render Applicants invention prima facie obvious. Applicants respectfully request reconsideration of the rejection in view of the following comments.

In order to establish a prima facie case of obviousness, “the prior art reference (or references when combined) must teach or suggest all the claim limitations.” See MPEP § 2143. As discussed above, the ‘640 Patent discloses a 9-fluorenylidene where one of the benzene rings of the 9-fluorenylidene is substituted with the group $-N-(CH_3)_2$. In contrast, Applicants’ invention, as claimed in independent claim 1, relates to a charge transport material comprising a 9-fluorenylidene group having at least a solubilizing substituent, wherein the solubilizing substituent comprises a $-(CH_2)_nH$ group where n is an integer between 1 and 50, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, a CR_b group, a CR_cR_d group, or a SiR_eR_f where R_a , R_b , R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group. Moreover, the ‘645 patent does not make up for the deficiencies of the ‘640 Patent. Since neither the ‘640 Patent nor the ‘645 Patent teach or suggest a 9-fluorenylidene group having a solubilizing substituent as presently claimed, the combination of the ‘640 Patent and the ‘645 Patent does not render Applicants’ invention, as claimed in independent claim 1, prima facie obvious.

Since the combination of the '640 Patent and the '645 Patent does not render Applicants' claimed invention prima facie obvious, Applicants respectfully request the withdrawal of the rejection under 35 U.S.C. § 103(a) as being unpatentable over the '645 Patent in view of the '640 Patent.

4. Rejections Under Ohkubo In View of Hamasaki and Goto

The Examiner rejected claims 7-9 and 12-14 under 35 U.S.C. § 103(a) as being unpatentable over '526 Patent in view of the '645 Patent and '640 Patent. More specifically, the Examiner asserted that the '526 Patent "discloses an electrophotographic image forming apparatus comprising all the components recited in instant claims 8, 9, and 12-14, but for the particular photoreceptor." The '645 Patent and the '640 Patent were cited for suggesting a singled-layered organic photoreceptor. Applicants submit that the combination of the '640 Patent, the '526 Patent and the '645 Patent does not render Applicants' invention, as claimed in independent claim 8, prima facie obvious. Applicants respectfully request withdrawal of the rejection in view of the following comments.

In order to establish a prima facie case of obviousness, "the prior art reference (or references when combined) must teach or suggest all the claim limitations." See MPEP § 2143. As discussed above, the '640 Patent discloses a 9-fluorenylidene where one of the benzene rings of the 9-fluorenylidene is substituted with the group $-N-(CH_3)_2$. In contrast, Applicants' invention, as claimed in independent claim 8, relates to a charge transport material comprising a 9-fluorenylidene group having at least a solubilizing substituent, wherein the solubilizing substituent comprises a $-(CH_2)_nH$ group where n is an integer between 1 and 50, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, a CR_b group, a CR_cR_d group, or a SiR_eR_f where R_a , R_b , R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl

group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group. Moreover, neither the '526 patent nor the '645 Patent make up for the deficiencies of the '640 Patent. Since none of the cited patents teach or suggest a 9-fluorenylidene group having a solubilizing substituent as presently claimed, the combination of the '640 Patent, the '526 Patent and the '645 Patent does not render Applicants' invention, as claimed in independent claim 8, prima facie obvious.

Since the combination of the '640 Patent, the '526 Patent and the '645 Patent does not render Applicants' invention, as claimed in independent claim 8, prima facie obvious, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a) as being unpatentable over the '526 Patent in view of the '645 Patent and the '640 Patent.

Applicant does not comment further on specific features of the dependent claims, although the Applicant does not acquiesce in the assertions of the office action, since these issues are presently moot in view of the above analysis. Applicants respectfully request the withdrawal of the rejections under 35 U.S.C. § 103(a).

Double Patenting Rejection

The Examiner provisionally rejected claims 1-3, 5, 8-10, 12, 14, 21-23 and 25-27 under the judicially created doctrine of obvious-type double patenting as being unpatentable over claims 1-30 of co-pending Application No. 10/670,943 (the '943 Application). The Examiner also provisionally rejected claim 7 under the judicially created doctrine of obvious-type double patenting as being unpatentable over claims 1-30 of co-pending application '943 in view of Diamond, Handbook of Imaging Materials, pp. 395-396 Applicants have included an appropriate terminal disclaimer to overcome the obvious-type double patenting rejections over the '943 Application. Applicants respectfully request the withdrawal of the rejections under the judicially created doctrine of obvious-type double patenting.

CONCLUSION

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



Brian L. Jarrells
Registration No. 53,067

Customer No. 24113
Patterson, Thuente, Skaar & Christensen, P.A.
4800 IDS Center
80 South 8th Street
Minneapolis, Minnesota 55402-2100
Telephone: (612) 252-1535